

	Test Report issued under the responsibility of: TÜV SÜD Canada Inc. 11 Gordon Collins Drive, Gormley, ON, L0H 1G0, Canada	
TEST REPORT IEC 60950-1 Information technology equipment – Safety – Part 1: General requirements		
Report Number. : 7169003341-000 Date of issue : 2017-11-08 Total number of pages : 37		
Applicant's name : Pro V & V Inc. Address : 700 Boulevard South, Suite 102, Huntsville, AL 35802, USA		
Test specification: Standard : IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013 Test procedure : Test report Non-standard test method : N/A		
Test Report Form No. : IEC60950_1F Test Report Form(s) Originator : SGS Fimko Ltd Master TRF : Dated 2014-02 Copyright © 2014 IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE System). All rights reserved. This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context. If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.		
General disclaimer: The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.		
Test item description : Trade Mark : Manufacturer : Model/Type reference : Ratings :	Voting system  Clear Ballot Group, Inc. 7 Water Street, Suite 700, Boston, MA 02109, USA ClearCast 120V~, 60Hz, 4.4A, class I	

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	TÜV SÜD Canada Inc.
Testing location/ address		11 Gordon Collins Dr., Gormley, ON L0H 1G0, Canada
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address		
Tested by (name + signature).....		Herbert Wu Project Engineer <i>Herbert Wu</i>
Approved by (name + signature)		Peter Keith Project Engineer <i>Peter Keith</i>
<hr/>		
<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:	
Testing location/ address		
Tested by (name + signature).....		
Approved by (name + signature)		
<hr/>		
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:	
Testing location/ address		
Tested by (name + signature).....		
Witnessed by (name + signature)		
Approved by (name + signature)		
<hr/>		
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:	
Testing location/ address		
Tested by (name + signature).....		
Witnessed by (name + signature)		
Approved by (name + signature)		
Supervised by (name + signature).....		

List of Attachments (including a total number of pages in each attachment):

Attachment 1: National Differences (16 pages)

Attachment 2: Photo Documentation (9 Pages)

Summary of testing:

The subject models meet the requirements of IEC 60950-1:2005 + A1:2009 + A2:2013, CAN/CSA-C22.2 No. 60950-1:2007/A2:2014-10, UL 60950-1:2007/R2014-10, subject to the considerations below.

Tests performed (name of test and test clause):

All applicable tests performed

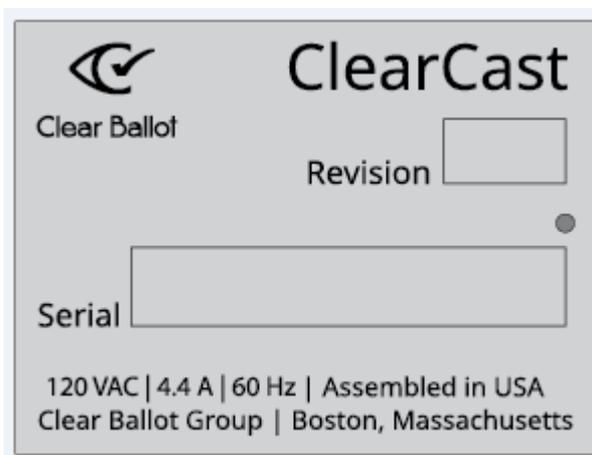
Excludes single fault condition (Section 4.3.8 and 5.3)

Testing location:

TÜV SÜD Canada Inc.

11 Gordon Collins Drive, Gormley,
ON L0H 1G0, Canada**Summary of compliance with National Differences:**

Compliant to National Differences as per checklist in Attachment 1

Copy of marking plate

Test item particulars	Voting System
Equipment mobility	<input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains.....	<input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B <input type="checkbox"/> permanent connection <input checked="" type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input type="checkbox"/> not directly connected to the mains
Operating condition	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time:
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: N/A
Mains supply tolerance (%) or absolute mains supply values	Absolute mains supply
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating of protective device as part of the building installation (A)	20A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IPX0
Altitude during operation (m)	< 2000m
Altitude of test laboratory (m)	< 200m
Mass of equipment (kg)	Approx. 14.1 Kg
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item.....	2017-11-02
Date(s) of performance of tests.....	2017-11-03 to 2017-11-08

General remarks:		
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.		
Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.		
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60950-1:		
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided :	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable	
When differences exist; they shall be identified in the General product information section.		
Name and address of factory (ies) : Clear Ballot Group, Inc. 7 Water Street, Suite 700, Boston, MA 02109, USA		
General product information:		
The Clear Ballot Group model ClearCast is a portable vote counting device consisting of a scanner, display, printer, and battery back-up circuit. The equipment is Class I with a metal enclosure, measures 40.6x35.6x25.4cm (16" x 14" x 10"), and is intended for continuous use in dry pollution degree 2 environments up to 35°C.		
Considerations:		
<ol style="list-style-type: none"> 1. The equipment has been evaluated for use in dry, pollution degree 2 environments at a maximum rated ambient temperature of 35°C. 2. Instructions and equipment markings related to safety shall be in a language acceptable in the country in which the equipment is to be installed. 3. EMC/EMI compliance has not been investigated in this report. 4. Abnormal operation tests not performed (clause 4.3.8, 5.3), including protection from over-charging and over-discharging of the battery. Compliance is documented by the manufacturer. 		
Abbreviations used in the report:		
- normal conditions - functional insulation - double insulation - between parts of opposite polarity Indicate used abbreviations (if any)	N.C. OP DI BOP	- single fault conditions - basic insulation - supplementary insulation - reinforced insulation S.F.C BI SI RI



IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

1	GENERAL		P
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1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	P
1.5.2	Evaluation and testing of components	<p>Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard.</p> <p>Components not certified are used in accordance with their ratings and they comply with applicable parts of UL/CSA 60950-1 and the relevant component standard.</p> <p>Components, for which no relevant UL/CSA-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of UL/CSA 60950-1.</p>	P
1.5.3	Thermal controls	No thermal controls.	N/A
1.5.4	Transformers	No transformers, except for ones employed in certified power supply.	N/A
1.5.5	Interconnecting cables	Considered as internal wiring	P
1.5.6	Capacitors bridging insulation	No capacitors bridging insulation except for ones employed in certified power supply.	N/A
1.5.7	Resistors bridging insulation	No resistors bridging insulation	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors	No surge suppressors except for ones employed in certified power supply	N/A
1.5.9.1	General		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A

1.6	Power interface		P
1.6.1	AC power distribution systems	TN	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	The unit is not a hand-held equipment.	N/A
1.6.4	Neutral conductor	Investigated as part of the certified power supply.	P

1.7	Marking and instructions		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking		P
	Multiple mains supply connections.....:	Single connection	P
	Rated voltage(s) or voltage range(s) (V)	120	P
	Symbol for nature of supply, for d.c. only.....:		N/A
	Rated frequency or rated frequency range (Hz) ...:	60	P
	Rated current (mA or A)	4.4	P
1.7.1.2	Identification markings		P
	Manufacturer's name or trade-mark or identification mark	Clear Ballot	P
	Model identification or type reference	ClearCast	P
	Symbol for Class II equipment only	Not Class II	N/A
	Other markings and symbols	Additional markings are provided and do not give rise to misunderstanding.	P
1.7.1.3	Use of graphical symbols		N/A
1.7.2	Safety instructions and marking		P
1.7.2.1	General		P
1.7.2.2	Disconnect devices		P
1.7.2.3	Overcurrent protective device	Not pluggable equipment type B. Not permanently connected equipment.	N/A
1.7.2.4	IT power distribution systems		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.5	Operator access with a tool	No access to hazardous part within operator access area which is accessible with a tool (i.e. locked lock)	N/A
1.7.2.6	Ozone	Equipment does not produce ozone.	N/A
1.7.3	Short duty cycles	Continuous operation	N/A
1.7.4	Supply voltage adjustment	No adjustment	N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment	No standard power supply outlet in the equipment	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference).....	No replaceable fuses within operation access	N/A
1.7.7	Wiring terminals		P
1.7.7.1	Protective earthing and bonding terminals.....	Complied	P
1.7.7.2	Terminals for a.c. mains supply conductors	No terminals for a.c. mains supply conductors	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	No terminals for d.c. mains supply conductors	N/A
1.7.8	Controls and indicators	No safety related controls or indicators	N/A
1.7.8.1	Identification, location and marking		N/A
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417.....		N/A
1.7.8.4	Markings using figures	Figures not used for indicating different positions of any control.	N/A
1.7.9	Isolation of multiple power sources		N/A
1.7.10	Thermostats and other regulating devices	No thermostats or other regulating devices	N/A
1.7.11	Durability		P
1.7.12	Removable parts	Marking required by this standard are not placed on removable parts that can be replaced in such a way that the marking would become misleading.	P
1.7.13	Replaceable batteries		N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations	Equipment not intended for installation in a restricted access location.	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas		P
2.1.1.1	Access to energized parts		P
	Test by inspection		P
	Test with test finger (Figure 2A)	The test finger does not contact components inside enclosure	P
	Test with test pin (Figure 2B)	The test pin was unable to contact bare hazardous parts	P
	Test with test probe (Figure 2C)	The test probe was unable to contact bare hazardous parts	P
2.1.1.2	Battery compartments		P
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards	No energy hazards in operator access areas	P
2.1.1.6	Manual controls	The equipment has no manual controls connected to hazardous voltages.	N/A
2.1.1.7	Discharge of capacitors in equipment		P
	Measured voltage (V); time-constant (s).....	0V within 1 s	—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply ..		N/A
	b) Internal battery connected to the d.c. mains supply :		N/A
2.1.1.9	Audio amplifiers	No audio amplifiers	N/A
2.1.2	Protection in service access areas		P
2.1.3	Protection in restricted access locations		N/A
2.2	SELV circuits		P
2.2.1	General requirements	Investigated as part of the certified power supply. SELV levels are maintained after single fault conditions.	P
2.2.2	Voltages under normal conditions (V)	Voltages do not exceed 42,4 V peak, or 60 V d.c., under normal operating conditions	P
2.2.3	Voltages under fault conditions (V)	Voltage do not exceed 42,4 V peak, or 60 V d.c., under fault conditions	P

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.2.4	Connection of SELV circuits to other circuits :	SELV circuits are only connected to other secondary circuits. The SELV circuit does not exceed the SELV limits under normal and fault conditions.	P

2.3	TNV circuits		N/A
2.3.1	Limits	No such circuits	N/A
	Type of TNV circuits..... :		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions :		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed :		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed :		—
2.3.5	Test for operating voltages generated externally		N/A

2.4	Limited current circuits		N/A
2.4.1	General requirements	Equipment was not investigated per limited current circuit requirements.	N/A
2.4.2	Limit values		N/A
	Frequency (Hz) :		—
	Measured current (mA) :		—
	Measured voltage (V)..... :		—
	Measured circuit capacitance (nF or μ F) :		—
2.4.3	Connection of limited current circuits to other circuits		N/A

2.5	Limited power sources		N/A
	a) Inherently limited output	Equipment was not investigated per limited power sources requirements.	N/A
	b) Impedance limited output		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Regulating network or IC current limiter, limits output under normal operating and single fault condition		N/A
	Use of integrated circuit (IC) current limiters		N/A
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA)		—
	Current rating of overcurrent protective device (A) ..		—

2.6	Provisions for earthing and bonding		P
2.6.1	Protective earthing	PE terminal provided as part of inlet	P
2.6.2	Functional earthing		N/A
	Use of symbol for functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		P
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors	18AWG minimum	P
	Rated current (A), cross-sectional area (mm ²), AWG	18AWG	—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG		—
	Protective current rating (A), cross-sectional area (mm ²), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)	Tested to 40A for 2 minutes per CSA C22.2 No. 0.4: From PE terminal to: Scanner frame: 0.67Vac, 16.8m Ω Main PE stud close to speaker: 0.62Vac, 15.5m Ω Printer door hinge: 0.99Vac, 24.8m Ω	P
2.6.3.5	Colour of insulation	Green/yellow (from IEC inlet)	P
2.6.4	Terminals		P
2.6.4.1	General		P
2.6.4.2	Protective earthing and bonding terminals	As part of the IEC inlet	N/A
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		P

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Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No such components	N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system	Not reliant on a telecommunication network	N/A

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements		P
	Instructions when protection relies on building installation	not relied on	N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection	The building installation is considered as providing short-circuit backup protection	P
2.7.4	Number and location of protective devices	provided as part of approved power supplies (all models)	P
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel	No double pole fusing and no neutral fusing	N/A

2.8	Safety interlocks		N/A
2.8.1	General principles	No safety interlocks provided or required.	N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm)		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

2.8.8	Mechanical actuators		N/A
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2.9	Electrical insulation		P
2.9.1	Properties of insulating materials		P
2.9.2	Humidity conditioning		N/A
	Relative humidity (%), temperature (°C)	Not Hygroscopic	—
2.9.3	Grade of insulation	Reinforced, Basic (certified PSU)	P
2.9.4	Separation from hazardous voltages		P
	Method(s) used	Reinforced, Basic (certified PSU)	—

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General		P
2.10.1.1	Frequency	60 Hz	P
2.10.1.2	Pollution degrees	Pollution Degree 2	P
2.10.1.3	Reduced values for functional insulation		P
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage		P
2.10.2.1	General		P
2.10.2.2	RMS working voltage		P
2.10.2.3	Peak working voltage		P
2.10.3	Clearances		P
2.10.3.1	General		P
2.10.3.2	Mains transient voltages		P
	a) AC mains supply	2500	P
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits	(see appended table 2.10.3 and 2.10.4)	P
2.10.3.4	Clearances in secondary circuits		N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply	1500	P
2.10.3.7	Transients from d.c. mains supply		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances		P
2.10.4.1	General		P
2.10.4.2	Material group and comparative tracking index		P
	CTI tests	Material group IIIb is assumed to be used	—
2.10.4.3	Minimum creepage distances	(see appended table 2.10.3 and 2.10.4)	P
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components	No such components except those in a separately approved power supply.	N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U		N/A
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards	Separately approved PCB provided.	P
2.10.6.1	Uncoated printed boards		P
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations	No coatings relied upon for increased creepage and clearance.	N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection		P
3.1.2	Protection against mechanical damage		P
3.1.3	Securing of internal wiring		P
3.1.4	Insulation of conductors	(see appended table 5.2)	P
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.7	Insulating materials in electrical connections		N/A
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors		P
	10 N pull test		P
3.1.10	Sleeving on wiring	No supplementary insulation	N/A
3.2	Connection to a mains supply		P
3.2.1	Means of connection		P
3.2.1.1	Connection to an a.c. mains supply	An appliance inlet for connection of a detachable power supply cord is provided.	P
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections	No hazards	P
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		P
3.2.5	Power supply cords	Approved power cord used.	P
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm).....		—
3.2.9	Supply wiring space		N/A
3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Not permanently connected equipment. Not equipment with ordinary non-detachable power supply cords	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.3.2	Connection of non-detachable power supply cords	Not equipment with special non-detachable power supply cords	N/A
3.3.3	Screw terminals	No screws and no nuts that clamp external mains supply conductors	N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²).....:		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		P
3.4.1	General requirement		P
3.4.2	Disconnect devices		P
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords	No switches	N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment	Single phase	N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources	Only 1 power source	N/A

3.5	Interconnection of equipment		N/A
3.5.1	General requirements		N/A
3.5.2	Types of interconnection circuits	No interconnection of equipment	N/A
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment		N/A

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		P
	Angle of 10°	Tilted to an angle of 10°. Stability not compromised	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Test force (N)	Mass <25 kg Not a floor-standing unit.	N/A
4.2	Mechanical strength		P
4.2.1	General		P
	Rack-mounted equipment.	Equipment not intended to be installed in a rack that can be extended away from the rack for installation.	N/A
4.2.2	Steady force test, 10 N		P
4.2.3	Steady force test, 30 N		P
4.2.4	Steady force test, 250 N		P
4.2.5	Impact test		P
	Fall test	Fall test applies to sides. No access to hazards	P
	Swing test		P
4.2.6	Drop test; height (mm)		N/A
4.2.7	Stress relief test		N/A
4.2.8	Cathode ray tubes	No CRT's.	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No high pressure lamps.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	Not wall or ceiling mounted equipment.	N/A

4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are judged to be sufficiently well rounded so as not to constitute a hazard.	P
4.3.2	Handles and manual controls; force (N)		P
4.3.3	Adjustable controls	No adjustable controls.	N/A
4.3.4	Securing of parts		P
4.3.5	Connection by plugs and sockets		P
4.3.6	Direct plug-in equipment	Not direct plug-in equipment.	N/A
	Torque		—
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment	The equipment does not have any heating elements.	N/A
4.3.8	Batteries	Lead-acid	P
	- Overcharging of a rechargeable battery	Refer to considerations	—
	- Unintentional charging of a non-rechargeable battery	Rechargeable battery	N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- Reverse charging of a rechargeable battery	Refer to considerations	—
	- Excessive discharging rate for any battery	Refer to considerations	—
4.3.9	Oil and grease	Not intended to be exposed to oil, grease or similar.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not produce dust or employ powders, liquids or gases.	N/A
4.3.11	Containers for liquids or gases	The equipment does not contain liquids.	N/A
4.3.12	Flammable liquids	The equipment does not use any flammable liquids.	N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation	No radiation sources.	N/A
4.3.13.1	General		N/A
4.3.13.2	Ionizing radiation	No radiation sources.	N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials	No generation of UV.	N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation	No generation of UV.	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	No lasers	N/A
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)	Only low power applications of LEDs used.	
4.3.13.6	Other types		N/A

4.4	Protection against hazardous moving parts		P
4.4.1	General		P
4.4.2	Protection in operator access areas	Required the tool to access	P
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		P
4.4.5	Protection against moving fan blades	Not access to the moving part	P
4.4.5.1	General		P
	Not considered to cause pain or injury. a).....		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Is considered to cause pain, not injury. b)		N/A
	Considered to cause injury. c)		N/A
4.4.5.2	Protection for users	Complies with a)	N/A
	Use of symbol or warning	Marking not required	N/A
4.4.5.3	Protection for service persons	Complies with a)	N/A
	Use of symbol or warning	Marking not required	N/A

4.5	Thermal requirements		P
4.5.1	General		P
4.5.2	Temperature tests		P
	Normal load condition per Annex L	L.7	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat		N/A

4.6	Openings in enclosures		N/A
4.6.1	Top and side openings	No vents	N/A
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures		N/A
	Construction of the bottom, dimensions (mm)	No openings	—
4.6.3	Doors or covers in fire enclosures	No door or cover leading to an operator access area.	N/A
4.6.4	Openings in transportable equipment		N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks)		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame		P
	Method 1, selection and application of components wiring and materials		P
	Method 2, application of all of simulated fault condition tests	Method 1 used	N/A
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General		P
4.7.3.2	Materials for fire enclosures	V-1	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures		N/A
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components	No high voltage components	N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	(see appended Table 5.1)	P
5.1.2	Configuration of equipment under test (EUT)		P
5.1.2.1	Single connection to an a.c. mains supply		P
5.1.2.2	Redundant multiple connections to an a.c. mains supply	Only 1 source	N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		P
5.1.4	Application of measuring instrument		P
5.1.5	Test procedure		P
5.1.6	Test measurements		P
	Supply voltage (V)	(see appended table 5.1)	—
	Measured touch current (mA)	(see appended table 5.1)	—
	Max. allowed touch current (mA)	3.5 mA	—
	Measured protective conductor current (mA)	See appended table	—
	Max. allowed protective conductor current (mA) ..	As per Table 5A,	N/A
5.1.7	Equipment with touch current exceeding 3,5 mA	Not exceeding 3.5 mA	N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	No telecommunication or cable distribution systems	N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks	No telecommunication networks	N/A
	a) EUT with earthed telecommunication ports	No such ports	N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A

5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	Complies to 5.1.8.1	P

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	DC stepper motor	P
5.3.3	Transformers	Investigated as part of the certified power supply	P
5.3.4	Functional insulation	Clause 5.3.4 c) relied upon.	P
5.3.5	Electromechanical components	No such components.	N/A
5.3.6	Audio amplifiers in ITE	No audio amplifiers	N/A
5.3.7	Simulation of faults	(see appended table 5.3)	P
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		P
5.3.9.1	During the tests		P
5.3.9.2	After the tests		P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages	No such connections	N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N/A

6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements	No TNV circuits	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A

6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)	No telecommunication networks	—
	Current limiting method		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General	Equipment is not intended to be connected to a cable distribution system	N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)	Annex A not relied upon.	N/A
A.1.1	Samples		—
	Wall thickness (mm).....		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Sample 3 burning time (s)..... :		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material..... :		—
	Wall thickness (mm)..... :		—
A.2.2	Conditioning of samples; temperature (°C)..... :		N/A
A.2.3	Mounting of samples..... :		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C..... :		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements	DC stepper motor only.	N/A
	Position..... :		—
	Manufacturer..... :		—
	Type..... :		—
	Rated values..... :		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)..... :		—
	Electric strength test: test voltage (V)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	Position	Investigated as part of the certified power supply	—
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings		N/A

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument	The measuring instrument of Figure D.1 is from Figure 4 of IEC 60990 is used.	P
D.2	Alternative measuring instrument		N/A

E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
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F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
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IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict

G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances	Annex G not relied upon.	N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)	N/A
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J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal(s) used	Zinc on steel	—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity	No thermal controls relied upon for safety.	N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction	No ringing signals	N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringling signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators	No impulse test generators used.	N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Preferred climatic categories	No VDRs except for ones employed in certified power supply.	N/A
	- Maximum continuous voltage		N/A
	- Combination pulse current		N/A
	Body of the VDR Test according to IEC60695-11-5.....		N/A
	Body of the VDR. Flammability class of material (min V-1).....		N/A
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)	Quality system not relied on for reduced creepage and clearances.	N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment	Annex S not relied upon	N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
		No ingress protection claimed	—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A
		Annex U not relied upon.	—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction		P
V.2	TN power distribution systems		P
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		P
W.1	Touch current from electronic circuits		P
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		P
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		P
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current	Investigated as part of the certified power supply	N/A
X.2	Overload test procedure		N/A
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus	No UV.	N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	ANNEX CC, Evaluation of integrated circuit (IC) current limiters		N/A
CC.1	General		N/A
CC.2	Test program 1.....		N/A
CC.3	Test program 2.....		N/A
CC.4	Test program 3.....		N/A
CC.5	Compliance.....		N/A
DD	ANNEX DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General	Equipment not intended to be installed in a rack that can be extended away from the rack for installation.	N/A
DD.2	Mechanical strength test, variable N.....		N/A
DD.3	Mechanical strength test, 250N, including end stops.....		N/A
DD.4	Compliance.....		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
EE	ANNEX EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols.....:		N/A
	Information of user instructions, maintenance and/or servicing instructions.....:		N/A
EE.3	Inadvertent reactivation test.....:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols.....:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A)		N/A
	Test with wedge probe (Figure EE1 and EE2)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components					P
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity ¹⁾	
Enclosure	Styron or certified equivalent	ClearCast	Overall dimensions: 16" x 14" x 10" Metal housing	—	Assessed in this report	
Power cord (USA/Canada)	(Interchangeable)	(Interchangeable)	Type SJT, 300V, 60°C, 3x0.824mm ² (18 AWG) Plug and Receptacle: UL file E326979 Jacket: UL file E325848	UL 817, CSA C22.2 No. 21	UL, CSA or equivalent national mark	
Inlet	Schaffner	FN9233	250Vac, 50/60Hz, 15A	UL 1283, CSA No. 8, EN 60939- 2	UR, CSA, VDE	
Mains wire	(Interchangeable)	(Interchangeable)	18AWG, 300V minimum	—	CSA, UR	
Ground wire	(Interchangeable)	(Interchangeable)	18AWG, 300V, minimum, green and yellow	—	CSA, UR	
Power Supply	TDK-Lambda	HWS15A-150A Series	Input: 85-265Vac, 1.9/0.95A Output: 24Vdc 6.5A,	UL 60950- 1, CSA C22.2 No. 60950-1 EN 60950- 1	cURus,	
Battery	Zeus	PC9-12SF2	Rated: 12Vdc, 9.0Ah, UL 94 V-0	UL 1989	UR	
Fuse Block	Littelfuse	354 series	Rated: 3AB/AG size fuse,	UL 4248-1, CSA C22.2 No. 4248.1	cURus	
Uninterruptible Power Supply	Mini-Box	OPENUPS	Input: 6-30Vdc, Charge current set: 1.75A	—	Assessed in this report	
Fuse (NUC mainboard)	BUSSMAN	MDL	Rated: 250V, 5A	UL 248-1, CSA C22.2 No. 248-1	UR, CSA	
Fuse (Printer)	BUSSMAN	MDL	Rated: 250V, 2A	UL 248-1, CSA C22.2 No. 248-1	UR, CSA	
Fuse (Scanner)	BUSSMAN	MDL	Rated: 250V, 2A	UL 248-1, CSA C22.2 No. 248-1	UR, CSA	
Supplementary information:						
Note 1: Provided evidence ensures the agreed level of compliance, See OD-CB2039.						
Note 2: Marking not seen on physical component.						

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: Opto Electronic Devices	N/A
Manufacturer		
Type		
Separately tested		
Bridging insulation.....		
External creepage distance		
Internal creepage distance.....		
Distance through insulation.....		
Tested under the following conditions.....		
Input		
Output.....		
supplementary information		
No opto-couplers expect for those within separately approved PSU's		

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
120	0.75	4.4	—			Unit is scanning and charging the empty lead acid battery
Supplementary information:						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test				N/A
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
supplementary information:					

2.1.1.5 c) 2)	TABLE: stored energy		N/A
Capacitance C (μF)	Voltage U (V)	Energy E (J)	
supplementary information:			

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Clause	Requirement + Test	Result - Remark	Verdict

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			N/A
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		
Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)			
supplementary information:				
Investigated as part of the certified power supplies. See table 2.5				

2.5	TABLE: Limited power sources					N/A
Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (V)	I _{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
supplementary information:						
Sc=Short circuit, Oc=Open circuit						

2.10.2	Table: working voltage measurement			N/A
Location	RMS voltage (V)	Peak voltage (V)	Comments	
supplementary information:				
Investigated as part of the certified power supplies.				

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Basic/supplementary:							
Inlet (Primary to ground)	339	240	2.0	4.9	2.5	4.9	
Reinforced:							
Primary to enclosure (PSU 1)	339	240	4.0	*	5.0	*	
Primary to secondary (PSU 1)	339	240	4.0	*	5.0	*	
Supplementary information:							
Note *: Investigated as part of completely enclosed approved power supply. (Class I)							

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.5	TABLE: Distance through insulation measurements					N/A
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)	
Supplementary information: No reliance on distance through Insulation.						

4.3.8	TABLE: Batteries								—	
The tests of 4.3.8 are applicable only when appropriate battery data is not available								—		
Is it possible to install the battery in a reverse polarity position?								Not user replaceable		N/A
	Non-rechargeable batteries			Rechargeable batteries						
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging		
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	
Max. current during normal condition	N/A	N/A	N/A	1.0A	1.75	N/A	N/A	N/A	N/A	
Max. current during fault condition	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Test results:										
- Chemical leaks								P		
- Explosion of the battery								P		
- Emission of flame or expulsion of molten metal								P		
- Electric strength tests of equipment after completion of tests								P		
Supplementary information: Lead-acid battery is separately. Refer to consideration										

4.3.8	TABLE: Batteries								P
Battery category: Lead-acid									
Manufacturer Zeus									
Type / model PC9-12SF2									
Voltage 12V									
Capacity 9AH									
Tested and Certified by (incl. Ref. No.) UR MH29008									

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Clause	Requirement + Test	Result - Remark	Verdict

MARKINGS AND INSTRUCTIONS (1.7.13)

Location of replaceable battery	Not user replaceable
Language(s)	N/A
Close to the battery	N/A
In the servicing instructions	N/A
In the operating instructions	N/A

4.5	TABLE: Thermal requirements					P		
		Test 1	Test 2	Test 3	Test 4			
	Supply voltage (V)	120V, 60 Hz	Battery Operated	120V, 60 Hz	Battery Operated	—		
	Ambient T _{min} (°C)	20.0	20.0	35.0	35.0	—		
	Ambient T _{max} (°C)	20.0	20.0	35.0	35.0	—		
	Maximum measured temperature T of part/at:	T (°C)				Allowed T _{max} (°C)		
	AC inlet	28.2	24.2	43.2	39.2	85.0		
	AC mains wire	34.9	28.8	49.9	43.8	85.0		
	24VPS Transformer winding	55.4	25.6	70.4	40.6	85.0		
	DC/DC converter L5	46.6	27.6	61.6	42.6	105.0		
	Fan Enclosure	37.8	32.6	52.8	47.6	85.0		
	Battery enclosure	33.6	25.1	48.6	40.1	85.0		
	Battery wire	34.6	29.1	49.6	44.1	85.0		
	OPENUPS input connector	39.1	31.1	54.1	46.1	105.0		
	Printer Enclosure Top	34.3	30.5	49.3	45.5	85.0		
	Scanner PCB	41.9	37.5	56.9	52.5	105.0		
	Enclosure Top	23.5	22.8	38.5	37.8	70.0		
	Enclosure Back (near battery)	27.6	24.5	42.6	39.5	70.0		
Supplementary information: Unit was run continuously in a scanning loop. Test 1: Duration: 2 hours, 30 minutes Test 2: Duration: 2 Hours 30 minutes Test 3: Correlated temperature results of Test 1 Test 4: Correlated temperature results of Test 2								
	Temperature T of winding:	t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulatio n class
	N/A							
Supplementary information: Rise of Resistance method not utilized.								

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4.5.5	TABLE: Ball pressure test of thermoplastic parts		N/A
	Allowed impression diameter (mm)	≤ 2 mm	—
Part	Test temperature (°C)	Impression diameter (mm)	
Supplementary information: No thermoplastic parts which are used as direct mounting of hazardous voltage.			

4.7	TABLE: Resistance to fire					N/A
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence	
Supplementary information: Method 2 used. See appended table 5.3						

5.1	TABLE: touch current measurement			P
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions	
Enclosure and ground	0.32	3.5	Normal polarity	
Enclosure and ground	0.58	3.5	Reverse polarity	
supplementary information:				

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			P
Test voltage applied between:	Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No	
Basic/supplementary:				
Primary (L&N) to Earth	DC	1414	No	
Reinforced:				
Primary (L&N) to Secondary SELV – Power supply 1	DC	2828	No	
Supplementary information:				

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Clause	Requirement + Test	Result - Remark	Verdict

5.3	TABLE: Fault condition tests					—	
	Ambient temperature (°C)					—	
	Power source for EUT: Manufacturer, model/type, output rating					(See appended table 1.5.1)	—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
Supplementary information: Excluded from the scope of evaluation, refer to considerations							

C.2	TABLE: transformers						N/A	
Loc.	Tested insulation		Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
Loc.	Tested insulation			Test voltage / V	Measured clearance / mm	Measured creepage dist. / mm	Measured distance thr. insul. / mm; number of layers	
supplementary information:								
C.2	TABLE: transformers						N/A	